

NATIONAL BROADBAND NETWORK PROGRAMME (NBN)

BILL OF QUANTITIES

REQUEST FOR PROPOSAL FOR REPAIRING CIVIL WORKS

& FIBER CABLES & ROUTES TRANSFERING

FOR

NORTH REGION NETWORK

VOLUME 5- BILL OF QUANTITIES

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GENERAL PREAMBLES

1. QUANTITIES

- 1.01 Quantities set out in the Bills of Quantities are the estimated quantities and they shall not be taken as the actual and correct quantities for ordering or purchasing of materials.
- 1.02 Works shall be measured net as fixed in position in accordance with the rules contained in this Method of Measurement or except where otherwise stated in a measurement rule applicable to the work.
- 1.03 Dimensions used in calculating quantities are taken to the nearest 10 mm (i.e. 5 mm and over is regarded as 10 mm and less than 5 mm is disregarded).

2. SYMBOLS, ABBREVIATIONS AND DEFINITIONS

The following symbols and abbreviations are used in these Preambles and in the Bills of Quantities:

LM	:	Linier Meter
No.	:	Number
Strand	:	Fiber Strand
Month	:	Month

BILLS OF QUANTITIES

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BILL NO.1-A
Fiber Cable Works

- Existing ADSS cables: 517 km.
- Existing Duct cables: 90 km.

Item No.	Description	Unit	Est. Qty		* Unit Rate J.D.		Amount J.D.
			Number	Words	Number	Words	
1	Fiber Repair Inside UPVC Ducts, Delivery and Installation with all related fittings and accessories (Specifications are in Accordance with Volume IV) approved by the Engineer.						
1.1	Supply 72 Fibers cable.	LM	1000	One Thousand			
1.2	Install 72 Fibers cable in UPVC ducts.	LM	1000	One Thousand			
1.3	Supply 48 Fibers cable.	LM	500	Five Hundred			
1.4	Install 48 Fibers cable in UPVC ducts.	LM	500	Five Hundred			
1.5	Supply 24 Fibers cable.	LM	500	Five Hundred			
1.6	Install 24 Fibers cable in UPVC ducts.	LM	500	Five Hundred			
1.7	Supply 12 Fibers cable.	LM	1500	One Thousand and Five Hundred			
1.8	Install 12 Fibers cable in UPVC ducts.	LM	1500	One Thousand and Five Hundred			
2	Fiber Repair for Or Transferring Aerial Optical Fiber Cable (ADSS) Delivery and Installation with all related fittings and accessories approved by the Engineer (Specifications are in Accordance with Volume IV) :						
2.1	Supply 72 Fibers aerial cable (ADSS type).	LM	22000	Twenty Two Thousand			
2.2	Install 72 Fibers aerial cable (ADSS type) with all needed accessories.	LM	25000	Twenty Five Thousand			
2.3	Supply 48 Fibers aerial cable (ADSS type).	LM	2500	Two Thousand and Five Hundred			
2.4	Install 48 Fibers aerial cable (ADSS type) with all needed accessories.	LM	2500	Two Thousand and Five Hundred			
2.5	Supply 24 Fibers aerial cable (ADSS type).	LM	6000	Six Thousand			

2.6	Install 24 Fibers aerial cable (ADSS type) with all needed accessories.	LM	6000	Six Thousand		
2.7	Supply 12 Fibers aerial cable (ADSS type).	LM	7000	Seven Thousand		
2.8	Install 12 Fibers aerial cable (ADSS type) with all needed accessories.	LM	10000	Ten Thousand		
3	Splicing Enclosure for Duct Installed Cables Delivery and Installation with all related accessories and fittings approved by the Engineer (Specifications are in Accordance with Volume IV) :					
3.1	Supply splicing enclosure for 72 fiber Duct cable.	No.	10	Ten		
3.2	Splicing and installing 72 F.O splice Enclosure with all related accessories.	No.	20	Twenty		
3.3	Supply splicing enclosure for 48 fiber Duct cable.	No.	1	One		
3.4	Splicing and installing 48 F.O splice Enclosure with all related accessories.	No.	1	One		
3.5	Supply splicing enclosure for 24 fiber Duct cable.	No.	3	Three		
3.6	Splicing and installing 24 F.O splice Enclosure with all related accessories.	No.	7	Seven		
3.7	Supply splicing enclosure for 12 fiber Duct cable.	No.	5	Five		
3.8	Splicing and installing 12 F.O splice Enclosure with all related accessories.	No.	10	Ten		
	Sub Total to be Carried to Summary Table for Bill # 1					

Cont'd Bill No. 1-A : Fiber Cable Works:

Item No.	Description	Unit	Est. Qty		* Unit Rate J.D.		Amount J.D.
			Number	Words	Number	Words	
4	Splicing Enclosure for ADSS Installed Cables Delivery and Installation with all related accessories and fittings approved by the Engineer (Specification are in Accordance with Volume IV).						
4.1	Supply ADSS splicing enclosure for 72 fibers cable.	No.	35	Thirty Five			
4.2	Splicing and installing 72 F.O ADSS splice Enclosure with all related accessories.	No.	60	Sixty			
4.3	Supply ADSS splicing enclosure for 48 fibers cable.	No.	7	Seven			
4.4	Splicing and installing 48 F.O ADSS splice Enclosure with all related accessories.	No.	12	Twelve			
4.5	Supply ADSS splicing enclosure for 24 fibers cable.	No.	12	Twelve			
4.6	Splicing and installing 24 F.O ADSS splice Enclosure with all related accessories.	No.	12	Twelve			
4.7	Supply ADSS splicing enclosure for 12 fiber cable.	No.	15	Fifteen			
4.8	Splicing and installing 12 F.O ADSS splice Enclosure with all related accessories.	No.	20	Twenty			
5	Splicing Single Strands for Duct and ADSS hanged Cables						
5.1	Re-splice single strands of fiber inside existing Splicing Enclosures or inside existing ODF to remedy high attenuation or breaks on single strands.	No.	550	Five hundred and Fifty			
	Sub Total to be Carried to Summary Table for Bill # 1						

Cont'd Bill No. 1-A : Fiber Cable Works:

Item No.	Description	Unit	Est. Qty		* Unit Rate J.D.		Amount J.D.
			Number	Words	Number	Words	
6	Supply, Install and Splice Optical Patch Panel to be Mounted inside 19" rack for optical termination. Prices should include all related components, pigtails, connectors. As per Specifications in ANNEX F-3 in Volume IV, and approved by the Engineer).						
6.1	Supply Optical patch panel for 72 fiber cable with all accessories and Patch Cords.	No.	1	One			
6.2	Install and Splice Optical patch panel for 72 fiber cable with all accessories and Patch Cords.	No.	1	One			
6.3	Supply Optical patch panel for 6 fiber cable with all accessories and Patch Cords.	No.	10	Ten			
6.4	Install and Splice Optical patch panel for 6 fiber cable with all accessories and Patch Cords.	No.	10	Ten			
7	Supply and Install Optical Patch Cords 5 m ,SM LC-SC duplex	No.	100	One hundred			
8	Supply and Install Optical Patch Cords 3m ,SM LC-SC duplex	No.	10	Ten			
	Sub Total to be Carried to Summary Table For Bill # 1						

**BILL NO.1-B
CIVIL WORKS**

Item No.	Description	Unit	Est. Qty		* Unit Rate J.D.		Amount J.D.
			Number	Words	Number	Words	
1	<p>Repairing the damaged duct routes as follows:</p> <p>The excavation of the existing trench of fiber optics cables route to repair or replace the damaged ducts and reinstate the terrain to it's original status regardless of the type of the soil: rocky, sand, concrete, base course, asphalt, pavement slabs of various types and colours, etc. As per the below specifications and as those mentioned in the RFP :</p> <ul style="list-style-type: none"> ➤ The trench is a 50 cm wide and 100 cm deep. ➤ Repair or Supply and install Two (2) UPVC sub-ducts (1 ¼ inches in diameter and 1.8 mm thickness) inside one (1) UPVC (4 inches diameter & 3.2 mm thickness) ➤ The Unit Price will be per one Fiber Cut for a distance not exceeding (10m). <p>Prices for this item shall include the following:</p> <ul style="list-style-type: none"> ▪ Excavation, layer backfilling in layers of not more than 20cm each, intensive compacting. Support excavation sides and to transfer the excess outside the site to the allowed locations according to the authorized sites. ▪ Backfilling with Sweileh red sand to protect the pipes, approximately 30 cm high from the excavation base according to the drawings. ▪ Procurement and installation of the warning tape, electronic identifiers, according to the specifications, drawings, the requirements of the responsible authorities, and the supervising Engineer. 	No.	20	Twenty			

	<ul style="list-style-type: none"> ▪ The backfilling using single size material or base course or cement treated base course or concrete in any thickness according to the specifications, the requirements of the responsible authorities and the Engineer instructions. ▪ Re-instate the terrain to its original status before excavation regardless of the type of the surface ▪ Repair or Supply and install Two (2) UPVC sub-ducts (1 ¼ inches in diameter and 1.8 mm thickness) inside one (1) UPVC (4 inches diameter & 3.2 mm thickness) with all related accessories flanges fittings, the adhesives inside the trench. And the galvanised steel pipes 4” in diameter and 2.5 mm thickness to be used in railway and bridge crossing, according to the specifications, drawings, the requirements of the responsible authorities and the agreement of the supervising Engineer. ▪ The price shall include the Flanges, the adhesives, different colours of plastic ropes 6 mm in diameter, quantity: 1, inside each sub-duct, to be used to drag cables in the future. (No knots are allowed). 					
2	<p>As in the previous item No.1 but for distance more than 10 m.</p> <ul style="list-style-type: none"> ➤ Fiber Cuts that exceed (10m) shall be measured and paid for every one meter starting from the first meter. 	LM	1000	One Thousand		
Sub Total to be Carried to Summary Table For Bill # 1						

Cont'd Bill No. 1-B : Civil Works :

Item No.	Description	Unit	Est. Qty		* Unit Rate J.D.		Amount
			Number	Words	Number	Words	J.D.
3	<p>Repairing the damaged duct routes as follows:</p> <p>The excavation of the existing trench of fiber optics cables route to repair or replace the damaged ducts and reinstate the terrain to it's original status regardless of the type of the soil: rocky, sand, concrete, base course, asphalt, pavement slabs of various types and colours, etc. As per the below specifications and as those mentioned in the RFP :</p> <ul style="list-style-type: none"> ➤ The trench is a 50 cm wide and 100 cm deep. ➤ Repair or Supply and install Four (4) UPVC sub-ducts (1 ¼ inches in diameter and 1.8 mm thickness) inside one (1) UPVC (4 inches diameter & 3.2 mm thickness) ➤ The Unit Price will be per one Fiber Cut for a distance not exceeding (10m). <p>Prices for this item shall include the following:</p> <ul style="list-style-type: none"> ▪ Excavation, layer backfilling in layers of not more than 20cm each, intensive compacting. Support excavation sides and to transfer the excess outside the site to the allowed locations according to the authorized sites. ▪ Backfilling with Sweileh red sand to protect the pipes, approximately 30 cm high from the excavation base according to the drawings. ▪ Procurement and installation of the warning tape, electronic identifiers, according to the specifications, drawings, the requirements of the responsible authorities, and the supervising Engineer. ▪ The backfilling using single size material or base course or cement treated base course or concrete in any thickness according to the specifications, the requirements of the responsible authorities and the Engineer instructions. ▪ Re-instate the terrain to its original status before excavation regardless of the type of the surface. 	No.	3	Three			

Cont'd Bill No. 1-B: CIVIL WORKS:

Item No.	Description	Unit	Est. Qty		* Unit Rate J.D.	
			Number	Words	Number	Words
	<ul style="list-style-type: none"> ▪ Repair or Supply and install Four (4) UPVC sub-ducts (1 ¼ inches in diameter and 1.8 mm thickness) inside one (1) UPVC (4 inches diameter & 3.2 mm thickness) with all related accessories flanges fittings, the adhesives inside the trench. And the galvanised steel pipes 4” in diameter and 2.5 mm thickness to be used in railway and bridge crossing, according to the specifications, drawings, the requirements of the responsible authorities and the agreement of the supervising Engineer. ▪ The price shall include the Flanges, the adhesives, different colours of plastic ropes 6 mm in diameter, quantity: 1, inside each sub-duct, to be used to drag cables in the future. (No knots are allowed). 					
4	<p>As in the previous item no.3 but for distance more than 10 m.</p> <ul style="list-style-type: none"> ➤ Fiber Cuts that exceed (10m) shall be measured and paid for every one meter starting from the first meter. 	LM	20	Twenty		
5	<p>Delivery and execution of pre-cast man holes (120*68*82 cm) as internal dimensions with base and walls of 15 cm thickness, with a refined surface made from reinforced concrete with a minimum cube crushing strength of 260 kg/cm², as per Annex B in specifications sheets.</p> <ul style="list-style-type: none"> ▪ Prices shall include excavation, material procurement, shuttering, pouring, reinforcement steel, manhole mesh, accessories and fixing the required plastic pipes and the metallic manhole cover of the heavy type 40 ton load and backfilling around the manhole, according to the specifications & drawings, and instructions of the supervising engineer. 	No.	2	Two		

6	<p>Delivery and execution of pre-cast hand holes (91.5*46*82 cm) as minimum internal dimensions with a base of 15 cm thickness, with a refined surface made from reinforced concrete with fracture strength of 250 kg/cm². As per Annex B in specifications sheets.</p> <ul style="list-style-type: none"> Prices shall include excavation, material procurement, shuttering, pouring, reinforcement steel, manhole mesh, accessories and fixing the required plastic pipes and the metallic manhole cover of the heavy type 40 ton load and backfilling around the manhole, according to the specifications & drawings, and instructions of the supervising engineer. 	No.	4	Four			
7	<p>Delivery and execution of pull boxes (50*25*48.5 cm) as internal dimensions with a base of 5 cm thickness with a fair-face surface finish made from reinforced concrete with a minimum cube crushing strength of 200 kg/cm², the cover shall be of reinforced concrete type, according to the specifications, drawings and agreement of the supervising engineer.</p>	No.	10	Ten			
8	<p>Supply and install galvanized U-guard cable protector including all related accessories, according to the specifications, drawings, and instructions of the Engineer.</p>	LM	100	One Hundred			
9	<p>Supply and install galvanized cable ladder (15 cm) including all related accessories. According to the specifications & drawings, and instructions of the Engineer.</p>	No.	5	Five			
	Sub Total to be Carried to Summary Table For Bill # 1						

Cont'd Bill No. 1-B: CIVIL WORKS

Item No.	Description	Unit	Est. Qty		* Unit Rate J.D.		* Unit Rate J.D.
			Number	Words	Number	Number	
10	Supply and install flexible white color HDPE pipes (25mm in diameter and 2.8mm thickness) with all related accessories and fittings to be installed between the pole & the hand-hole and between the pull box & the entity and where required in accordance with the Engineer's guidance and instructions.	LM	100	One Hundred			
11	Supply and install white color UPVC pipes (25mm in diameter and 1.5mm thickness) with all related accessories and fittings (joints, fittings, connectors...etc..) to be installed inside the entities and where required in accordance with the Engineer's guidance and instructions.	LM	50	Fifty			
12	Wall mountain bracket for splice box. (Should Be fitted to the splice Box Dimensions).	No.	5	Five			
13	Galvanized Steel Pipe. Supply and install galvanized steel pipe Ø 1" including all related accessories.	LM	20	Twenty			
14	Steel Manhole cover with frame (for manhole 120*68cm, the two covers shall be heavy type with a label stating "MoICT-NBN". The covers shall be lockable and bears 40 ton). According to drawings.	No.	3	Three			
15	Steel Manhole cover without frame (for manhole 120*68, the two covers shall be heavy type with a label stating "MoICT-NBN". The covers shall be lockable and bears 40 ton).According to drawings.	No.	20	Twenty			
16	Steel Hand hole cover with frame (for manhole 91.5*46, the cover shall be heavy type with a label stating "MoICT-NBN". The covers shall be lockable and bears 40 ton).According to drawings.	No.	10	Ten			
17	Steel Hand hole cover without frame (for manhole 91.5*46, the cover shall be heavy type with a label stating "MoICT-NBN". The covers shall be lockable and bears 40 ton).According to drawings.	No.	50	Fifty			
Sub Total to be Carried to Summary Table For Bill # 1							

Cont'd Bill No. 1-B: CIVIL WORKS :

Item No.	Description	Unit	Est. Qty		* Unit Rate J.D.		* Unit Rate J.D.
			Number	Words	Number	Number	
18	Reinforced concrete Pull Boxes cover with a minimum cube crushing strength of 200 kg /cm (for Pull Boxes 50*25 cm).According to drawings.	No.	50	Fifty			
19	Pigtail	No.	100	One Hundred			
20	Manhole brackets (According to the samples currently used in the project According to drawings.	No.	2	Tow			
21	Manhole cable barrier (According to the samples currently used in the project. According to drawings.	No.	2	Tow			
22	Pole plate (According to the samples currently used in the project)	No.	200	Two Hundred			
Sub Total to be Carried to Summary Table For Bill # 1							

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Summary Table for Bill No.1 (A and B)

Item	Amount
Subtotal for Bill # 1-A carried From Page No 6	
Subtotal for Bill # 1-A carried From Page No 7	
Subtotal for Bill # 1- A carried From Page No 8	
Subtotal for Bill # 1-B carried From Page No 10	
Subtotal for Bill # 1-B carried From Page No 13	
Subtotal for Bill # 1-B carried From Page No 14	
Subtotal for Bill # 1-B carried From Page No 15	
Sub Total For Bills No. 1(A and B) (Will be Carried to price's Summary)	

Summary Table for Bill No.1

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Bill NO. 2 Transferring ADSS Cables

Item No.	Description	Unit	Est. Qty		* Unit Rate J.D.		Amount J.D.
			Number	Words	Number	Words	
1	Transferring the same cable to the new poles (without supply new cables and without supply all fittings and cable mountaineering accessories.).	L.M	4000	Four Thousands			
2	Fitting and Accessories and cable mounting needed to hang cable to the new poles	No.	100	One Hundred			
	Subtotal to be Carried to price's Summary						

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BILL NO.3 : MOBILIZATION FEES

Item	Description	Unit	Est. Qty	* Unit Rate J.D.		Amount
No.			Number	Number	Words	JD.
1	<p>Monthly mobilization cost:</p> <p>This cost shall be paid to the Contractor at the end of each month of the Time for Completion (Contract Duration) whether any Fiber Cut Repair and/or Routes Transferring shall be carried out by the Contractor or not and in case no Fiber Cut Repair and/or Routes Transferring is required on the existing North Region Network or a small number of either occurs during any month; the Contractor shall not in any case ask for any additional costs for any reason except for the monthly mobilization cost stipulated in the Contract, Where the mobilization cost shall cover the following items and conditions :</p> <ol style="list-style-type: none"> 1. All the Contractor's salaries for his manpower and staff, or to provide machines, equipment, materials, or any other needed works, expenses, fees and taxes, overheads, profits and any other cost incurred by the Contractor. 2. The Employer shall not pay any monthly Mobilization cost to the Contractor to cover for this item due to unjustified delays caused by the contractor as defined in the SLR. 3. In case of no fiber cuts or route transfer has occurred during any month or the number of fiber cuts is very limited or the quantities of route transfer is minimal, then the Contractor is not allowed to claim for any additional payments and he is entitled only for the mobilization cost of that month to cover for all costs incurred by him except when he is unjustifiably delayed as defined under item 2 above. 	Month	24	Twenty Four		
Subtotal to be Carried to Summary Table price's Summary						

* All unit rates submitted by bidders for all items in Bills Nos. 1 and 2 should be inclusive of all costs incurred by bidders to supply, and install, all required works in accordance with tender specifications and instructions including the cost of materials, workmanship, accessories, equipment, erection, testing, insurance, transport, maintenance and support, over heads, profits, taxes, fees and any other cost of any kind

Pricing Summary			
S/No.	Item Description	Amount	
		Dinar	Fils
	ITEM No. 1: Bill # 1 A and B (Carried from page # 16)		
	ITEM No. 2: Bill #2 Transferring ADSS (Carried from page # 17)		
	ITEM No. 3: Bill #3 Mobilization (Carried from page # 18)		
Total			
Percentage of Increase to total () %		OR	
Percentage of Decrease from Total () %			
Final Total (in words)		J.D.	
* Price including all applicable taxes, fees and duties.			
Name of Bidder			
Name of Authorized signatory		His Position	
Tel. & fax of Bidder			
Address of Bidder			
Date			
Signature of Bidder (Authorized signatory) & his seal			